



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	RC
Course Number:	288
Descriptive Title:	Fundamentals of Pulmonary Function Testing
Division:	Health Sciences and Athletics
Department:	Respiratory Care
Course Disciplines:	Respiratory Technologies
Catalog Description:	This course will review the fundamental procedures and equipment used to measure pulmonary function in non-symptomatic populations and in populations of people with chronic pulmonary diseases. Experience with exhaled air data collection will be provided through hands-on procedures at the college and at health service organizations' diagnostic laboratories. Skills to be learned will include performance of public health screening and diagnostic pulmonary function testing.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	Students must be admitted to the El Camino College Respiratory Care Program or have graduated from an accredited respiratory care program.
Hours Lecture (per week):	2
Hours Laboratory (per week):	3
Outside Study Hours:	4
Total Course Hours:	90
Course Units:	3
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	Pending
Transfer UC:	Yes
Effective Date:	
General Education:	ECC
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	

Other:	
Student Learning Outcomes:	<p>SLO #1 Appropriate and Competent PFT Administration</p> <p>Given an in-class patient care scenario during an oral examination based on assigned reading, demonstrate appropriate and competent clinical competencies for performing basic bedside Pulmonary Function Testing found in the section of the Data Arc system for clinical practice.</p> <p>SLO #2 Explain RC PFT Administration</p> <p>During classes & labs, students will demonstrate and explain appropriate respiratory care Pulmonary Function Testing competencies such as performing a FEV1, FVC and the calculations to convert to FEV1%.</p> <p>SLO #3 Comprehensive Final Exam on Pulmonary Function Testing</p> <p>Students who stay in the course till the end of semester will take a comprehensive final multiple choice examination on Pulmonary Function Testing and 80% will obtain a grade of 70% or better.</p>
Course Objectives:	<ol style="list-style-type: none"> 1. Calibrate exhaled flow and volume measuring devices used in pulmonary function testing. 2. Operate exhaled flow and volume measuring devices used in pulmonary function testing. 3. Identify components, operational sequence and valid values given access to test results, patient information and quality control data. 4. Identify proper pulmonary function methods, tests and equipment for public health screening, bedside measurements and laboratory diagnostic testing. 5. Perform exhaled flow and volume measurements for public health screening, bedside measurements and laboratory diagnostic testing. 6. Identify appropriate assembly, function, operation, and cleanliness of pulmonary function equipment. 7. Instruct patients to perform valid pulmonary function tests at public health fairs, the bedside and in the laboratory.
Major Topics:	<p>I. Patient instruction before, during, and after pulmonary function testing such as (9 hours, lecture)</p> <ol style="list-style-type: none"> A. Proper patient position for Forced Vital Capacity. B. Proper breathing pattern for Maximal Voluntary Ventilation Maneuver. <p>II. Pulmonary function tests on non-symptomatic populations and patients with chronic respiratory diseases such as (9 hours, lecture)</p> <ol style="list-style-type: none"> A. Slow vital capacity B. One second Forced Expiratory Volume <p>III. Calibration, operation and quality control of pulmonary function equipment such as (9 hours, lecture)</p> <ol style="list-style-type: none"> A. Body plethysmograph B. Bedside spirometer <p>IV. Interpretation of pulmonary function test results from screening, bedside measurement and diagnostic testing for patients with issues such as (9 hours, lecture)</p> <ol style="list-style-type: none"> A. Active smoking B. Chronic bronchitis <p>V. Lab/Clinic hours to be arranged (54 hours, lab)</p>
Total Lecture Hours:	36
Total Laboratory Hours:	54

Total Hours:	90
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	Given access to a patient with chronic obstructive pulmonary disease and/or a patient with normal lungs, the student will perform a pulmonary function screening and record the patient results.
Critical Thinking Assignment 1:	Given access to quality control data and simulated spirometry results, identify if the values are valid for patient care decision-making.
Critical Thinking Assignment 2:	After reviewing patient pulmonary function evaluation data, identify appropriate interpretations of the degree and type of disease present.
Other Evaluation Methods:	Class Performance, Completion, Fieldwork, Homework Problems, Laboratory Reports, Matching Items, Multiple Choice, Objective Exam, Performance Exams, Quizzes, Reading Reports, Term or Other Papers, True/False, Written Homework
Instructional Methods:	Demonstration, Discussion, Field trips, Group Activities, Guest Speakers, Lab, Lecture, Multimedia presentations, Role play/simulation
If other:	Clinical performance at the patient's bedside in our clinical affiliate hospitals, clinics, health fairs and elementary schools indicating understanding of patient's therapy and capable of recommending changes when indicated. Internet Presentation/Resources
Work Outside of Class:	Answer questions, Observation of or participation in an activity related to course content (such as theatre event, museum, concert, debate, meeting), Problem solving activity, Required reading, Skill practice, Study, Written work (such as essay/composition/report/analysis/research)
If Other:	Group active learning assignments simulating clinical situations that require information collection and decision making in order to solve patient problem and determine course of therapy.
Up-To-Date Representative Texts:	Mottram, C. <u>Ruppel's Manual of Pulmonary Function Testing</u> . 12th ed. Mosby Publishers, 2022.
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	
Requisite:	
Category:	
Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	

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Requisite course:	
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Enrollment Limitations and Category:	Students must be admitted to the El Camino College Respiratory Care Program or have graduated from an accredited respiratory care program.
Enrollment Limitations Impact:	Students begin the clinical phase (A.S. degree requirements) of the Respiratory Care program after being accepted into the program.
Course Created by:	Stanley M. Baldwin
Date:	08/12/2015
Original Board Approval Date:	07/01/1990
Last Reviewed and/or Revised by:	Roy Mekaru
Date:	03/22/2024
Last Board Approval Date:	06/17/2024
Effective Term:	FA 2025